IN THE CLAIMS:

The text of all pending claims are set forth below. Cancelled and withdrawn claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (previously amended), (cancelled), (withdrawn), (new), (previously added), (reinstated - formerly claim #), (previously reinstated), (re-presented - formerly dependent claim #) or, (previously re-presented). Please AMEND claims and ADD new claims, in accordance with the following:

1. (ORIGINAL) An optical transmitter comprising:

an amplitude modulation unit performing amplitude modulation of only a one-side amplitude of a main signal with a low-frequency signal having a predetermined frequency;

an optical modulator receiving an input signal generated by the amplitude modulation unit after the one-side amplitude modulation, and modulating an incoming light in response to the received signal in accordance with a predetermined modulation-characteristic curve to output an optical output signal; and

an operating point control unit applying a predetermined bias voltage to the optical modulator to control a level of the input signal substantially applied to the modulation-characteristic curve so that the one-side amplitude of the main signal is applied to a minimum portion of the modulation-characteristic curve of the optical modulator.

2. (ORIGINAL) The optical transmitter of claim 1 wherein the amplitude modulation unit is provided to superimpose a signal, having the predetermined frequency in phase or 180 degrees out of phase with the low-frequency signal, on the input signal generated after the one-side amplitude modulation, so that an opposite-side amplitude of the main signal is canceled.

3. (ORIGINAL) The optical transmitter of claim 1 wherein the amplitude modulation unit is provided to perform amplitude modulation of only a valley portion in a waveform of the input signal when the input signal to the optical modulator is applied to an upward slope portion of the modulation-characteristic curve, and perform amplitude modulation of only a peak portion in the waveform of the input signal when the input signal to the optical modulator is applied to a downward slope portion of the modulation-characteristic curve.

4. (ORIGINAL) An optical transmitter comprising:

an amplitude modulation unit performing amplitude modulation of a main signal with a low-frequency signal having a predetermined frequency;

an optical modulator receiving an input signal generated by the amplitude modulation unit after the amplitude modulation, and modulating an incoming light in response to the received signal in accordance with a predetermined modulation-characteristic curve to output an optical output signal; and

an operating point control unit applying a predetermined bias voltage to the optical modulator to control a level of the input signal substantially applied to the modulation-characteristic curve of the optical modulator, so that the input signal generated after the amplitude modulation is applied to a minimum portion of the modulation-characteristic curve when the main signal is in OFF state.

5. (CURRENTLY AMENDED) The optical transmitter of claim 1 ~~or 4~~ wherein the operating point control unit comprises a phase comparator which compares a phase of the optical output signal of the optical modulator with a phase of the low-frequency signal, and the bias voltage applied to the optical modulator by the operating point control unit is changed to a different polarity depending on whether the two signals are in phase or 180 degrees out of phase.

6. (CURRENTLY AMENDED) The optical transmitter of claim 1 ~~or 4~~ wherein the optical transmitter comprises a Mach-Zehnder optical modulator.

7. (ORIGINAL) A control method of an optical transmitter provided with an optical modulator, comprising:

performing amplitude modulation of only a one-side amplitude of a main signal with a low-frequency signal having a predetermined frequency;

causing the optical modulator to receive an input signal generated after the one-side amplitude modulation, and modulate an incoming light in response to the received signal in accordance with a predetermined modulation-characteristic curve to output an optical output signal; and

applying a predetermined bias voltage to the optical modulator to control a level of the

input signal substantially applied to the modulation-characteristic curve so that the one-side amplitude of the main signal is applied to a minimum portion of the modulation-characteristic curve of the optical modulator.

8. (ORIGINAL) The control method of claim 7 wherein the amplitude modulation is provided to superimpose a signal, having the predetermined frequency in phase or 180 degrees out of phase with the low-frequency signal, on the input signal generated after the one-side amplitude modulation, so that an opposite-side amplitude of the main signal is canceled.

9. (ORIGINAL) The control method of claim 7 wherein the amplitude modulation is provided to perform amplitude modulation of only a valley portion in a waveform of the input signal when the input signal to the optical modulator is applied to an upward slope portion of the modulation-characteristic curve, and perform amplitude modulation of only a peak portion in the waveform of the input signal when the input signal to the optical modulator is applied to a downward slope portion of the modulation-characteristic curve.

10. (ORIGINAL) A control method of an optical transmitter provided with an optical modulator, comprising:

performing amplitude modulation of a main signal with a low-frequency signal having a predetermined frequency;

causing the optical modulator to receive an input signal generated after the amplitude modulation, and modulate an incoming light in response to the received signal in accordance with a predetermined modulation-characteristic curve to output an optical output signal; and

applying a predetermined bias voltage to the optical modulator to control a level of the input signal substantially applied to the modulation-characteristic curve of the optical modulator, so that the input signal generated after the amplitude modulation is applied to a minimum portion of the modulation-characteristic curve when the main signal is in OFF state.

11. (CURRENTLY AMENDED) The control method of claim 7 ~~or 10~~ wherein the optical transmitter comprises a phase comparator which compares a phase of the optical output signal of the optical modulator with a phase of the low-frequency signal, and the bias voltage applied to the optical modulator is changed to a different polarity depending on whether the two signals are in phase or 180 degrees out of phase.

12. (CURRENTLY AMENDED) The control method of claim 7 ~~or 10~~ wherein the optical transmitter comprises a Mach-Zehnder optical modulator.

13. (NEW) The optical transmitter of claim 4 wherein the operating point control unit comprises a phase comparator which compares a phase of the optical output signal of the optical modulator with a phase of the low-frequency signal, and the bias voltage applied to the optical modulator by the operating point control unit is changed to a different polarity depending on whether the two signals are in phase or 180 degrees out of phase.

14. (NEW) The optical transmitter of claim 4 wherein the optical transmitter comprises a Mach-Zehnder optical modulator.

15. (NEW) The control method of claim 10 wherein the optical transmitter comprises a phase comparator which compares a phase of the optical output signal of the optical modulator with a phase of the low-frequency signal, and the bias voltage applied to the optical modulator is changed to a different polarity depending on whether the two signals are in phase or 180 degrees out of phase.

16. (NEW) The control method of claim 10 wherein the optical transmitter comprises a Mach-Zehnder optical modulator.